

SCATTER AND BEAM HARDENING
CORRECTION IN COMPUTED TOMOGRAPHY
APPLICATIONS

ABSTRACT OF THE DISCLOSURE

[0025] A method of correcting scatter includes obtaining a voxellized representation of a 3D image of an object from a plurality of projection data. A single scatter profile for the object is calculated using the voxellized representation of the 3D image of the object. A total scatter profile for the object is determined using the single scatter profile and an adjustment factor and the projection data is corrected using the total scatter profile to obtain a scatter corrected projection data. A beam hardening correction method includes simulating a number of attenuation data for an x-ray spectrum, at least one object material, and a detector spectral response. A function is fitted to the attenuation data to obtain an attenuation curve. A number of projection data for an object are corrected using the attenuation curve to obtain a number of beam hardening corrected projection data. A corrected image of the object is reconstructed from the beam hardening corrected image data.